

REMARKS

Applicants have reviewed and considered the Final Office Action mailed on February 24, 2003, and the references cited therewith.

Claims 2-13, 17-18, 21, 54, 59, 61, 63, and 65 and 81 are currently amended, and new claims 84-95 are added; as a result, claims 1-29, 59-61, 66-77, and 81-95 are now pending in this application. The new claims 84 and 85 are dependent claims on claim 13 and 23 respectively, and are supported in the same manner as claim 83. Claims 54-58, 62-65, and 78-80 have been withdrawn. New claims 84, 85 and 91 are supported on Figure 14A, 17 and/or 18B, new claim 86 is supported page 23 line 5, new claim 87 is supported by Figure 14B, new claim 88 is supported by original claim 19, new claims 89 and 92 is supported by Figure 14B and/or 19C, and new claim 93 is supported by Figure 16C, and claims 94 and 95 are supported on page 22 line 30-page 23 line 6. No new matter is added.

Interview Summary

On February 5, 2004, Applicants' undersigned representative and Examiner Winter had a telephonic interview to attempt clarification with respect to whether the claims were to an electrically powered device or to a battery in a shell. Attorney Lemaire tried to explain that it is possible and proper to claim an electrically powered device comprising a shell and a battery formed on the shell. It is also possible and proper to claim a gasoline-powered automobile comprising a gas tank and integrated fuel pump without reciting other parts of the automobile. In either case, there are no missing essential elements: The claimed device, being electrically powered, could have any of a large variety of subunits powered by the battery, and the patentable device need not recite all or even any of them. No agreement was reached.

Elections/Restrictions

The Final Office Action paragraph 1 refers to "This application contains claims drawn to an invention non-elected with traverse in paper 050203." Applicants cannot understand what the Examiner is trying to say here. Claims 1-12 depend on elected claim 13, and are to the elected invention. To the extent that the Examiner is asserting a restriction, Applicant respectfully traverses. Further, there is a reference in the Final Office Action referring to claims 54 *et seq.*,

however the summary indicated these claims as rejected, not withdrawn. Applicants respectfully request clarification and explanation of which claims are restricted and/or withdrawn.

Applicants have elected Group II (claims 13-29), and had previously amended claims 1-12 to depend on (and thus be part of) the elected group of claims. Applicants traverse any restriction of these claims.

The Examiner asserts that the “currently pending claims are drawn to an *electrically powered device*, not to a battery and not to a case. Applicants find this assertion of the Examiner’s preconceived idea of what a device is confusing, since elected claim 13 recites a shell and a battery integrated in the shell:

“An electrically powered device comprising:
a first shell, wherein the first shell forms a portion of an enclosure for the device, the first shell having an interior surface and an exterior surface; and
a battery integrated with the first shell, wherein the battery is formed as one or more layers integral to the first shell.”

Means-plus-function claims 59-63 form linking claims, as do claims 64-65 and claims 81-83, such that the same invention is linked. Applicants respectfully assert that all pending claims are to “an invention” as defined in 35 U.S.C. 101 and 102. See MPEP 809.03.

Reconsideration, clarification and allowance is respectfully requested.

Claim Objections

Claim 23 and claim 3 were objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Since claim 23 was rejected, this should have been noted in the rejection portion. However, claim 23 is a product-by-process claim. Such claims are permissible under *In Re Pilkington*, 162 USPQ 145 (CCPA 1969) and many other cases; see MPEP 2173.05(p). The present invention provides the requisite structure that is not particularly susceptible to definition by conventional recitation. The battery sputtered on the shell forming a portion of the enclosure provides a structure (the shell having a battery sputtered on its interior surface) that is structurally different than, for example, a shell having a battery formed by sputtering on a separate substrate that is then glued to the shell. The structure and properties imparted are different than those where the battery is

attached to the shell after making the battery. Reconsideration and withdrawal of the objection is respectfully requested.

§112 Rejection of the Claims

Claims 61, 63, 65 were rejected under 35 USC§112 as failing to comply with the written-description requirement. Applicants respectfully traverse. Figure 18B and 19C both disclose and provide written description a helical (“of, relating to, or having the form of the helix; broadly: spiral” “helix—something spiral in form... a three-dimensional curve with one or more turns around an axis (as the space curve described by a conical coil spring)”) or spiral (“winding around a center or pole and gradually receding from or approaching it”) structure as defined in Webster’s Third New International Dictionary Unabridged, ©1993 by Miriam Webster, Inc. An Applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, **figures, diagrams**, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed Cir. 1997). *(bold emphasis added)*. The written description requirement has been met by matter that is sufficiently shown in the Figures. As stated in the MPEP 2163.04: **“The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant’s disclosure a description of the invention defined by the claims. *Wertheim*, 541 F.2d at 263, 191 USPQ at 97.”** Applicants respectfully submit that the Examiner has failed to meet this burden. One of skill in the art would recognize that the Applicants were in possession of the claimed invention because the drawings of Figure 18B and 19C show a battery cell wound or folded around itself and having a helical and/or spiral structure. Accordingly, Applicants have met the written-description requirement and reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1-29, 59-61, 66-75, and 81-83 were rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Applicants respectfully traverse. Applicants have claimed and definitely claimed an electrically powered device, wherein the claims clearly define limitations or features that the

device must have to fall within the scope of the claim. The Examiner asks “Specifically, what electrically powered device is being claimed?” It is the device that draws electrical power from the recited battery. It is unreasonable and not required by the MPEP, 37 CFR, or 35 USC to require the Applicants to narrow the scope of the possible devices that could draw electrical power beyond specifying the limitations already recited. Reconsideration and withdrawal of the rejection is respectfully requested.

§102 Rejection of the Claims

Claims 13-27 were rejected under 35 USC § 102(b) as being anticipated by WO92/19090 (inventors Radmall et al.). Applicants respectfully traverse. Although the Examiner did not apparently acknowledge it in the Final Office Action, Applicants had previously amended claim 13 to recite “the first shell forms a portion of an enclosure for the device.” Radmall et al. describe a printed circuit board having an embedded battery therein. This is not a shell. It does not form a portion of an enclosure for the device. Further, Radmall et al. describe a flat circuit board that eliminated the need for a separate battery case. As stated at page 3 paragraph 2 “The circuit board may be rigid or, where it is to conform to another shape, such as an inside surface of a case, it may be made flexible.” Thus, the reference teaches away from the present invention, in that the reference contemplates a battery within a rigid or flex circuit board and a separate case, in contrast to the battery integral to the shell, wherein the of the present invention. Each of the dependent claims further defines the invention to further distinguish from the cited references. The Radmall et al. reference clearly does not contemplate the battery integral to the device case. Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 14, the rejection proffered by the Examiner failed to consider the previous amendment submitting by the Applicants on December 10, 2003. The reference cited by the Examiner fails to show a site on the interior surface of the shell adapted to receive an electrically powered component. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 15, the rejection proffered by the Examiner failed to consider the previous amendment. The reference cited by the Examiner describes, “where it [the circuit board] is to conform to another shape, such as an inside surface of a case, it may be made flexible.” This fails to show a convex curved portion of the shell on to which the battery is formed (note that claim 13 recites “the first shell forms a portion of an enclosure for the device”), since the reference describes the battery-printed circuit board as being conforming to the exterior case, a separate piece. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Claim 16 is dependent on and further refines claim 13 and appears allowable for the reasons discussed above.

Regarding claim 17, the rejection proffered by the Examiner failed to consider the previous amendment. Applicants respectfully traverse the rejection. Applicants have again amended the claim to clarify that the layers are successively deposited thin-film layers. The reference on its page 6 states that a lithium foil is “placed” in the hole, a layer of electrolyte is “provided over” the lithium foil, and a composite cathode is “provided over” the electrolyte layer. Applicants respectfully submit that this is not thin-film deposition as claimed, but rather, the placing of previously formed layers onto a substrate. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Further, as regarding new claim 86, the cited reference does not teach or suggest thin-film layers deposited by sputtering. Accordingly, consideration and an early indication of allowance of claim 86 is respectfully requested.

Regarding claim 18, Applicants respectfully traverse the rejection on the basis of the allowability of claim 13, and further on the basis of limitations of the amended claim 18 and new claim 87.

Regarding claim 19, Applicants respectfully traverse the rejection on the basis of the allowability of claims 13, 16, and 18, and further on the basis of limitations of claim 19 and new claim 88. The cited reference does not say, “wherein there are a plurality of contacts associated with the battery, wherein the contacts can be configured to produce a plurality of different battery hook ups” as recited in claim 19. Rather, the reference says, “a number of cells may be provided at different locations in the circuit board and electrically linked in series or parallel to

give the required voltage and capacity.” There is no indication of contacts that can be configured to different hookups, in contrast to the Examiner’s assertion. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 20, the Examiner used the same page 2, paragraph 2 argument against claim 16 (which recites, “formed within the first shell”) as against claim 20 (which recites, “formed on the first shell”). The reference cannot be interpreted both ways. Page 2, paragraph 2 of the reference says, “by forming the cell integrally in the circuit board, it is possible to eliminate the requirement for a separate casing, since in effect the circuit board performs that function.” The casing discussed in the reference is the casing for the battery, not the casing or enclosure for the electrically powered device. Further, the reference has the battery “in” the circuit board, not “on” the shell. Applicants respectfully traverse the rejection on the basis of the allowability of claim 13 and further on the basis of limitations of claim 20. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 23, the reference has no description or suggestion of the battery being sputtered on the interior surface, but rather says, “placed” (page 6, line 3) or “provided” (page 6, lines 5 and 9). Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 21, the reference has no description or suggestion of the battery being formed on the interior surface, but rather page 2, paragraph 2 of the reference says, “by forming the cell integrally in the circuit board”. Applicants respectfully traverse the rejection on the basis of the allowability of claim 13 and further on the basis of limitations of claims 20 and 21. Claim 21 has been amended and claim 89 has been added to separate the limitations of “interior” and “exterior”. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claims 22 and 24, adding a protective layer to the respective parent claims 20 and 23, the reference does not disclose either of these claims as a whole. The combination must be considered as a whole. For this, and for the reasons disclosed above, these claims are not anticipated. Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 25, adding limitations to its parent claim 20, the reference does not disclose either of these claims as a whole. The combination must be considered as a whole. For this, and for the reasons disclosed above, these claims are not anticipated. Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 26, the Examiner says, "Because the circuitry is on the 'inside', the battery is of necessity, on the 'outside'." This is clearly not supported in the reference, which shows the battery inside the circuit board, not "on the exterior surface of the first shell" as recited in claim 26. Further, the reference teaches the circuit board as being inside a separate case; see page 3, lines 6-7. Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claim 27, the arguments provided above for claim 26 apply also to the electrically powered component, which is on the printed circuit board described as on the inside of the case, and therefore not on the interior surface of the shell that claim 13 says "forms a portion of the enclosure for the device". Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Claims 1-7, 12-25, 59-61, 66-75, and 81-83 were rejected under 35 USC § 102(b) as being anticipated by USPN 5,180,645 (inventor Moré). Applicants respectfully traverse. Moré describes a battery embedded in a housing portion 10 in Figure 2 that is planar, not convex nor concave. It attaches to a planar surface of radio 20 of Figure 3. All drawings of the battery are planar, and not convex, concave, nor curved. The surfaces to which the battery is formed are planar, and not convex, concave, nor curved. The Examiner asserts that the radio 20 of Figure 3 is convex viewed from the outside. Radio 20 of Figure 3 is shown as a cube. The reference obliquely describes at column 3 line 67 "Of course, other arrangements having the battery 10 on other housing walls or in printed circuit boards or flex circuits within the housing 22 is within the contemplation of the present invention." Without impermissibly using hindsight of the present application, this does not teach the invention of claim 13, 81, or the other claims that were rejected, since all the walls shown are planar. Having the battery on the wall does not teach the claim 13 recitation: "a first shell, wherein the first shell forms a portion of an enclosure for the device, the first shell having a concave interior surface and a convex exterior surface; and a

battery integrated with the first shell, wherein the battery is formed as one or more layers integral to the first shell". Reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

§103 Rejection of the Claims

Claims 28 and 29 were rejected under 35 USC § 103(a) as being unpatentable over WO 92/19090 (Radmall et al.) as discussed above and Tuttle et al. (US 5,448,110). Applicants respectfully traverse. Radmall et al. describe a printed circuit board having an embedded battery therein. This is not a shell. The Examiner asserts that since batteries and capacitors are both energy storage mediums that Radmall et al. implicitly disclose a capacitor. Applicants disagree with the argument. Rubber bands and flywheels are also energy-storage mediums, but clearly not capacitors. Radmall et al. teach nothing about capacitors. Tuttle, on the other hand, describes an RFID package having a battery, capacitor, IC, and antenna wires. This package is also not a shell or portion of an enclosure for an electrical device (it is the electrical device, but cannot enclose anything else). Thus, like Radmall et al., Tuttle et al. do not describe or suggest that their device is shell or a portion of an enclosure for a device (while both provide an enclosure for their respective batteries, the batteries are not part of a shell or enclosure for something else. In contrast, the present claims 28 and 29 describe a shell having an integral battery and capacitor, and thus distinguish from and are not obvious in view of the references. Accordingly, reconsideration and withdrawal of the rejections, and an early indication of allowance is respectfully requested.

Claims 1- 29 were rejected under 35 USC § 103(a) as being unpatentable over USPN 5,433,096 to Janssen et al. and WO 97/39491 to Lew et al. Applicants respectfully traverse. Contrary to the assertion by the Examiner that a battery is integrated into its shell, Janssen describes a key having a transponder 2 that is activated by **received RF energy that is converted to DC**, regulated down, and stored temporarily in a capacitor (Column3 lines50-56). There is no battery described in the key. The only battery in Janssen is the automobile's, which

powers an RF transmitter that sends RF power towards the key. The Examiner admits there is no “layer battery” in the key. In fact, there is no battery in the keys of Janssen. Accordingly, the rest of the Examiner’s argument fails, since Lew et al. cannot motivate to combine a layered battery into a device that does not have nor need a battery. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Applicants also note USPN 5,644,207 that apparently includes disclosure material from WO 97/39491 to Lew et al. and also adds disclosure material, particularly Figures 12 and 13 that show a flexible polymer battery sandwiched between solar cells and electronic circuitry in a curved shape. Applicants note that Lew et al. describe “The polymer cells 111, in the arrangement shown in FIG. 12, are sandwiched between a plurality of solar cells 112 for the conversion of solar energy into electrical current and a charge management system, generally indicated 114, whose main component, a flexible circuit board 116, acts as the support for a plurality of chip-on-board components 118.” Thus, Lew et al. appear to suggest forming the battery and then forming the structure shown in Figure 13 by sandwiching the battery between two other components. The present claims appear to distinguish over this reference.

Claims 59-61, 66-77, and 81-83 were rejected under 35 USC § 103(a) as being unpatentable over USPN 5,433,096 to Janssen et al., WO 97/39491 to Lew et al., and USPN 6,238,813 to Maile et al. Applicants respectfully traverse. As described above, Janssen describes a key having a transponder 2 that is activated by received RF. There is no battery described in the key. Accordingly, the rest of the Examiner’s argument fails, since Lew et al. and Maile et al. cannot motivate to combine a layered battery into a device that does not have or need a battery. The Examiner argues that, since Lew et al. disclose “In its most general sense, the nature of polymer battery technology is such that a chassis or housing can be molded into a desired shape using the battery material itself and still incorporate a power source for the intended application” that this would include folding onto itself and “helical” rolling onto itself. Applicants respectfully traverse the Examiner’s use of hindsight and his attempt to read into the reference far more than is disclosed or suggested there. Lew et al. do not show or suggest a rolled or folded structure. Maile et al. describe “A battery system and method of manufacture in which at least two batteries, having different chemistries, are integrated into a common housing. The battery system has a unitary housing having at least two chambers, in which each pair of

adjacent chambers share a common wall. Each chamber contains one battery, and at least one battery has a different chemical composition than the remaining batteries.” Regarding means-plus-function claim 59, interpretation should be performed according to 35 U.S.C. 112 paragraph 6. The Maile batteries are not structurally equivalent to the “thin-film battery means manufactured as part of the first enclosure portion means of the case” as shown and described in the present application. Regarding claims 60 and 61, the references describe batteries that are not thin-film layers on an enclosure substrate, and are also not rolled or folded. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding Paragraph 16 of the Final Office Action (discussing claims 66-75 and 81-83), Applicants find the statements confusing. The claims are drawn to devices that use electrical power, and that include batteries that provide that power, and that have particular physical configurations. The claims clearly claim the invention that Applicants consider to be novel and non-obvious. No 112 rejection has been proffered. To support a 103 rejection, it is initially the Examiner’s burden to show that a claim is obvious. The Examiner merely dismisses the claimed invention with the conclusion “The artisan would select a battery that is suitable for the specified use.” The Examiner has failed to provide any *prima facie* case of obviousness. Without such a showing, the claims appear to recite novel and non-obvious configurations. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Regarding claims 76-77, Lew et al. discusses a cell-phone-type transceiver device recharging cradle or device on page 8, not a pacemaker enclosure. Applicants find no relevant material on page 21. The Maile et al. devices are rectangular or cylindrical boxes, and are not rolled or folded. The Examiner’s arguments fail to provide a *prima facie* case of obviousness, and fail to set forth any motivation to combine. Accordingly, reconsideration and withdrawal of the rejection, and an early indication of allowance is respectfully requested.

Information Disclosure Statements

Applicants previously submitted an IDS and additional Supplemental Information Disclosure Statements. Applicants are also submitting an additional Supplemental IDS herewith. Applicants respectfully request that initialed copies of the below noted 1449 Forms be returned to Applicants' Representatives to indicate that the cited references have been considered by the Examiner.

Applicants submitted an Information Disclosure Statement and Form 1449 on March 23, 2001, with the filing of the application. This IDS cited one *US Patent Document* and 6 *Other Documents* and appears in the PAIR Image File Wrapper. An examiner-initialed copy of this Form 1449 has not been returned and an examiner-initialed copy does not appear in the PAIR Image File Wrapper. An examiner-initialed copy is respectfully requested with the next communication.

An E-filed Information Disclosure Statement was filed on April 11, 2003, citing 30 *US Patent Documents*. The PAIR Image File Wrapper shows the examiner signed and dated (7/8/2003) copy, but is missing examiner initials for each reference reviewed. An examiner-initialed Form 1449 copy is respectfully requested with the next communication.

An E-filed Information Disclosure Statement was also filed on May 14, 2003, citing 59 *US Patent Documents*. The PAIR Image File Wrapper contains an examiner signed, dated (7/7/2003), and initialed copy that shows all references were reviewed. A copy of the examiner-initialed Form 1449 for this IDS was included with the Office Action mailed July 10, 2003.

Applicants' Supplemental Information Disclosure Statement and Form 1449 filed on June 9, 2003 was returned by the Examiner with the Office Action of July 10, 2003, but page 1 of 4 was missing. The PAIR Image File Wrapper contains an examiner-signed and dated (7/7/2003) copy, but shows missing examiner initials for the 3 cited *US Patent Documents* on page 1. An examiner-initialed Form 1449 copy is respectfully requested with the next communication.

Applicants' Supplemental Information Disclosure Statement and Form 1449 filed on December 10, 2003 was returned by the Examiner with the Office Action of February 24, 2004. The returned, signed, dated (2/6/2004), and examiner-initialed Form 1449 copy is appears to be in order.

Applicants are also submitting a Supplemental IDS herewith. Applicants respectfully request that examiner-initialed copies of the Form 1449 be returned to Applicants' Representatives to indicate that the cited references have been considered by the Examiner.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney ((952) 278-3501) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 502931

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelop addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 26th day of September, 2004.

Name: Charles A. Lemaire

Signature: Charles A. Lemaire